

State of Idaho

Optional Module Curriculum

for

Emergency Medical Technician

Advanced Emergency Medical Technician

Paramedic

May 2010





Preface

This curriculum, produced in May, 2010, is designed to instruct emergency medical personnel in the optional modules as included in the Scope of Practice by the Emergency Medical Services Physician Commission in accordance with IDAPA 16.02.02 and the current Standards Manual incorporated by reference within it. This content was developed by subject matter experts contracted by the Idaho EMS Bureau and approved by the State Health Officer.

It is the responsibility of the instructor to ensure current materials are being utilized for education. Consult the EMS Bureau's website at www.idahoems.org or contact the EMS Bureau for the most current version of educational materials.

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Skills table

Optional Module	Provider Level	Instructor Scope of Practice
Cervical stabilization-Cervical Collar	EMR	EMT
Spinal immobilization- Long Board	EMR	EMT
Spinal immobilization-Seated Patient (KED, etc.)	EMR	EMT
Extremity splinting	EMR	EMT
Epinephrine Auto Injector	EMR, EMT, AEMT	EMT
Blood Glucose Monitoring-automated	EMT	Advanced EMT
Orotracheal Intubation	AEMT	No Change
Pulse Oximetry	AEMT	Paramedic/Medical Director
EKG 12-lead data acquisition	EMT, AEMT	Paramedic/Medical Director
Glucagon	EMT, AEMT	Paramedic/Medical Director
CPAP	AEMT/Paramedic	Paramedic/Medical Director
End Tidal CO2 Monitoring/Capnometry	AEMT	Paramedic/Medical Director
Intramuscular (IM) injection	EMT, AEMT	Paramedic/Medical Director
Subcutaneous injection	EMT, AEMT	Paramedic/Medical Director
CO Oximetry	EMT, AEMT	Medical Director
Intubation-Medication Assisted (paralytics) (RSI)	Paramedic	Medical Director

EMT

Blood Glucose Monitoring

Description

1. EMR
 - 1.1. None
2. EMT
 - 2.1. Purpose
 - 2.1.1. Assess blood glucose level
 - 2.1.2. Assess impact of interventions
 - 2.2. Indications
 - 2.2.1. Decreased level of consciousness in the suspected diabetic
 - 2.2.2. Decreased level of consciousness of unknown origin
 - 2.3. Procedure
 - 2.3.1. Cleaning the site
 - 2.3.2. Refer to manufacturer's instructions for device being used
 - 2.3.3. Disposal of sharps
3. AEMT
 - 3.1. None
4. Paramedic
 - 4.1. None

Curriculum Objectives

1. Diabetes mellitus
 - 1.1. A chronic system syndrome characterized by hyperglycemia caused by a decrease in the secretion of, or activity of insulin
 - 1.2. Blood glucose levels fall below what is required for normal body functioning
 - 1.3. Combined effects of a decreased energy supply to the central nervous system and a hyperadrenergic state results from a compensatory increase in catecholamine secretion
 - 1.4. Assessment
 - 1.4.1. Known history of
 - 1.4.1.1. Diabetes
 - 1.4.1.2. Prolonged fasting
 - 1.4.1.3. Alcoholism
 - 1.4.2. Signs and symptoms
 - 1.4.2.1. Weakness
 - 1.4.2.2. Irritability
 - 1.4.2.3. Hunger

- 1.4.2.4. Confusion
- 1.4.2.5. Anxiety
- 1.4.2.6. Bizarre behavior
- 1.4.2.7. Tachycardia
- 1.4.2.8. Normal respiratory pattern
- 1.4.2.9. Cool, pale skin
- 1.4.2.10. Diaphoresis
- 1.4.2.11. Stupor
- 1.4.2.12. Coma
- 1.4.2.13. Palpitations
- 1.4.2.14. Tremors
- 1.4.3. Management
 - 1.4.3.1. Airway and ventilation
 - 1.4.3.2. Circulation
 - 1.4.3.3. Pharmacological interventions
 - 1.4.3.4. Non-pharmacological interventions
 - 1.4.3.5. Transport consideration
 - 1.4.3.5.1. Appropriate mode
 - 1.4.3.5.2. Appropriate facility
 - 1.4.3.5.3. Psychological support/communication strategies

12 Lead EKG Data Acquisition

Description

1. EMR
 - 1.1. none
2. EMT
 - 2.1. Obtaining and using information from patient monitoring devices including:
 - 2.1.1. 12-lead data acquisition and transmission
3. AEMT
 - 3.1. Same as EMT
4. Paramedic
 - 4.1. None

Curriculum -Objectives

1. EMR
 - 1.1. None
2. EMT
 - 2.1. Define purpose of 12-lead
 - 2.2. Know the indications for 12-lead
 - 2.3. Describe the procedure for application of electrodes
 - 2.4. Describe the procedure for obtaining 12-lead information
 - 2.5. Understand complications of 12-lead
 - 2.6. Understand transmission of 12-lead data
 - 2.7. Know how to document 12-lead data
3. AEMT
 - 3.1. Same as EMT
4. Paramedic
 - 4.1. None

Glucagon

Description

1. EMR
 - 1.1. None
2. EMT
 - 2.1. Applies a fundamental understanding of hypoglycemia to provide basic and selective advanced emergency care and transportation based on assessment findings
3. AEMT
 - 3.1. Same as EMT
4. Paramedic
 - 4.1. None

Curriculum Objectives

1. EMR
 - 1.1. None
2. EMT
 - 2.1. Cognitive:
 - 2.1.1. Recognize the need for medical direction and protocols to assist in the emergency medical care of the patient with altered mental status and hypoglycemia
 - 2.1.2. List the class, mechanism of action, indications, contraindications, side effects, dosage administration, duration of action and special considerations of glucagon
 - 2.1.3. Differentiate among the chemical, generic, and trade names of glucagon
 - 2.1.4. Describe the reassessment strategy for the patient with altered mental status and hypoglycemia following glucagon administration
 - 2.2. Psychomotor:
 - 2.2.1. Demonstrate the assessment and emergency medical care of a patient experiencing hypoglycemia induced altered mental status
 - 2.2.2. Perform the steps in the administration of glucagon to a patient experiencing hypoglycemia induced altered mental status
 - 2.2.3. Demonstrate proper documentation required for completing a patient care report for a patient experiencing hypoglycemia induced altered mental status
 - 2.3. Affective:
 - 2.3.1. Explain the importance of good patient care report (PCR) form documentation practices
3. AEMT
 - 3.1. Same as EMT
4. Paramedic
 - 4.1. None

Intramuscular Medication Administration

Description

1. EMR
 - 1.1. None
2. EMT
 - 2.1. Applies a fundamental understanding of intramuscular injections
3. AEMT
 - 3.1. Same as EMT
4. Paramedic
 - 4.1. None

Curriculum Objectives

1. EMR
 - 1.1. None
2. EMT
 - 2.1. Intramuscular (IM) medication administration
 - 2.1.1. Describe the 6 rights of drug administration
 - 2.1.2. Discuss proper needle handling procedures
 - 2.1.3. Discuss the proper documentation of intramuscular medication administration
 - 2.1.4. Describe the proper equipment, technique, complications and general principles for the preparation and administration for intramuscular injections
3. AEMT
 - 3.1. Same as EMT
4. Paramedic
 - 4.1. None

AEMT

End Tidal Carbon Dioxide Monitoring/Capnography

Description

1. EMR
 - 1.1. None
2. EMT
 - 2.1. None
3. AEMT
 - 3.1. Understanding, obtaining, and using information from capnography
4. Paramedics
 - 4.1. None

Curriculum Objectives

1. EMR
 - 1.1. None
2. EMT
 - 2.1. None
3. AEMT
 - 3.1. Understand what capnography is and how it is obtained
 - 3.2. Know the purpose of end-tidal monitoring
 - 3.3. Know the different types of carbon dioxide detectors: Colorimetric, Capnometry, and Capnography
 - 3.4. Have an understanding of each type of detector and what readings each provides
 - 3.5. Understand field uses for capnography
4. Paramedic
 - 4.1. None

Orotracheal Intubation

Description

1. EMR
 - 1.1. None
2. EMT
 - 2.1. none
3. AEMT
 - 3.1. Applies fundamental knowledge of upper airway anatomy and physiology to patient assessment and management to assure a patent airway via orotracheal intubation for patients over 12 years of age
4. Paramedic
 - 4.1. None

Curriculum Objectives

1. EMR
2. EMT
3. AEMT
 - 3.1. Describe Sellick's maneuver and the use of cricoid pressure during intubation
 - 3.2. Describe the equipment needed to perform orotracheal intubation
 - 3.3. Describe the indications, advantages, disadvantages, and complications of orotracheal intubation
 - 3.4. Describe the visual landmarks for direct laryngoscopy
 - 3.5. Describe steps to properly perform orotracheal intubation
 - 3.6. Describe the methods of assessing, confirming, and securing correct placement of an orotracheal tube
 - 3.7. Describe the technique for extubation
4. Paramedic
 - 4.1. None

Pulse Oximetry

Description

1. EMR
 - 1.1. None
2. EMT
 - 2.1. None
3. AEMT
 - 3.1. To understand why oxygen is essential in body
 - 3.2. Understand oxygen transport through the body
 - 3.3. To learn purpose of pulse oximetry along with indications and procedure for application
 - 3.4. Define how oximetry measures the saturation of hemoglobin
 - 3.5. Understand complications and how to troubleshoot device
4. Paramedic
 - 4.1. None

Curriculum Objectives

1. EMR
 - 1.1. None
2. EMT
 - 2.1. None
3. AEMT
 - 3.1. Describe importance of oxygen to body metabolism
 - 3.2. Understand oximetry assesses oxygen saturation of hemoglobin
 - 3.3. Understand oximetry can show effectiveness of interventions
 - 3.4. Know oximetry is a routine vital sign
 - 3.5. Know procedures of application and reading oximetry
 - 3.6. Determine sights for application of oximetry
 - 3.7. Define possible complications with oximetry
 - 3.8. Describe possible troubleshooting
 - 3.9. Describe transport of oxygen in body
 - 3.10. Understanding that hemoglobin reflects light differently with and without oxygen
4. Paramedic
 - 4.1. None

Paramedic

Intubation - Medication Assisted (paralytics) (Rapid Sequence Intubation)

Description

1. EMR
 - 1.1. None
2. EMT
 - 2.1. None
3. AEMT
 - 3.1. None
4. Paramedic
 - 4.1. At the end of this course the successful student will be able to
 - 4.1.1. Integrate a comprehensive understanding of rapid sequence intubation medications, indications, contraindications, advantages, disadvantages, complications and equipment along with a thorough knowledge of advanced airway management to formulate a treatment plan; successfully intubate the simulated patient within three attempts without causing a significant decrease in SPO2 or increase in CO2

Curriculum Objectives

1. EMR
 - 1.1. None
2. EMT
 - 2.1. None
3. AEMT
 - 3.1. None
4. Paramedic
 - 4.1. Describe the indications, contraindications, advantages, disadvantages, complications, and equipment for rapid sequence intubation with neuromuscular blockade
 - 4.2. Evaluate a patient who requires intubation and predict the difficulty of the intubation based on the patients physical findings
 - 4.3. Identify neuromuscular blocking drugs and other agents used in rapid sequence intubation
 - 4.4. Differentiate between neuromuscular blocking agents and their uses
 - 4.5. Describe the indications, contraindications, advantages, disadvantages, complications, and equipment for sedation during intubation
 - 4.6. Identify sedative agents used in airway management
 - 4.7. Explain the pathophysiology of the agents used in RSI
 - 4.8. Correctly calculate drug dosages of agents used in RSI
 - 4.9. List the steps in Rapid Sequence Intubation

Multiple levels

Atropine & 2-Pam Chloride (Chempack patient use - emergency stockpile release only)

Description

1. EMR:
 - 1.1. Gain fundamental knowledge of the medications so the EMT may administer to a peer, a patient, or themselves in an emergency
 - 1.2. Medication safety
 - 1.3. Storage and Security
 - 1.4. Kinds of medications used during an emergency
 - 1.5. Auto-injectors
 - 1.6. Atropine sulfate & 2-Pralidoxime chloride auto-injector, emergency stockpile release
 - 1.7. Naming
 - 1.8. Mechanism of action
2. EMT
 - 2.1. Same as EMR
3. AEMT
 - 3.1. EMT Material PLUS:
 - 3.1.1. Pharmacology
 - 3.1.2. Effects of nerve agents
4. Paramedic
 - 4.1. Same as AEMT

Curriculum Objectives

1. EMR
 - 1.1. Demonstrate a basic understanding of the pharmacology of the drug
 - 1.2. Correctly select drug indications for use
 - 1.3. Correctly select drug contraindications for use
 - 1.4. Correctly select specific route of drug administration
 - 1.5. Determine correct dosage based on patient age and severity of symptoms
 - 1.6. Follow manufacturer's instructions for administration
 - 1.7. Correctly mark patient with dosage and type of drug given
 - 1.8. Understand proper disposal techniques of used injectors
 - 1.9. Correctly determine when a nerve agent or organophosphates exposure should be suspected.
2. EMT
 - 2.1. Same as EMR
3. AEMT:
 - 3.1. EMR/EMT Plus:
 - 3.1.1. Demonstrate an advanced understanding of the pharmacology of the drug

- 3.1.2. Demonstrate a basic understanding of the effects of nerve agents or organophosphates
- 4. Paramedic:
 - 4.1.1. Same as AEMT

Carbon Monoxide Oximetry

Description

1. EMR
 - 1.1. None
2. EMT
 - 2.1. Basic pathophysiology review of the lungs
 - 2.2. How CO enters the body and is circulated through the bloodstream
 - 2.3. How to recognize signs/symptoms of CO poisoning
 - 2.4. Basic treatment for CO poisoning
3. AEMT
 - 3.1. Same as EMT plus
 - 3.1.1. Additional focus on IV
 - 3.1.2. Advanced airway options.
4. Paramedic
 - 4.1. Same as AEMT plus
 - 4.1.1. Additional focus on ALS procedures
 - 4.1.2. Medication administration.

Curriculum Objectives

1. EMR:
 - 1.1. None
2. EMT:
 - 2.1. Define carbon monoxide and carbon monoxide poisoning
 - 2.2. Describe the causes of carbon monoxide poisoning
 - 2.3. Identify signs and symptoms of carbon monoxide poisoning
 - 2.4. Describe the BLS care and treatment for a patient with carbon monoxide poisoning
 - 2.5. Describe the steps needed to properly identify carbon monoxide poisoning using a CO oximeter
 - 2.6. Describe how to identify false readings using a CO oximeter
 - 2.7. Identify the risks of carbon monoxide poisoning to EMS providers and firefighters
 - 2.8. Describe the danger(s) in treating and releasing/not transporting a patient with a significant carbon monoxide exposure
3. AEMT:
 - 3.1. EMT level plus:
 - 3.1.1 Describe when IV therapy and advanced airway procedures may be needed in a patient with carbon monoxide poisoning
4. Paramedic:
 - 4.1. None

Continuous Positive Air Pressure (CPAP)

Description

1. EMR
 - 1.1. None
2. EMT
 - 2.1. None
3. AEMT
 - 3.1. Applies a fundamental understanding of physiology to select and administer CPAP to a patient during an emergency, in combination with other therapies within scope of practice
4. Paramedic
 - 4.1. Same as AEMT

Curriculum Objectives

1. EMR
 - 1.1. None
2. EMT
 - 2.1. None
3. AEMT
 - 3.1. Psychomotor
 - 3.1.1. Given a CPAP device, demonstrate the correct assembly prior to patient administration
 - 3.1.2. Given a CPAP device, demonstrate proper placement on a simulated patient (to include proper mask seal)
 - 3.1.3. Given a CPAP device, demonstrate correct assembly combining CPAP with a nebulizer, prior to patient administration. (may be omitted if not applicable for the device being used)
 - 3.2. Cognitive
 - 3.2.1. Define the letters in the mnemonic CPAP
 - 3.2.2. List three negative physiologic effects of exacerbation of COPD
 - 3.2.3. List indications for the use of CPAP
 - 3.2.4. List at least four precautions for the use of CPAP
4. Paramedic
 - 4.1. Same as AEMT

Subcutaneous (SQ) medication administration

Description

1. EMR
 - 1.1. None
2. EMT
 - 2.1. Gain a fundamental understanding of subcutaneous injections
3. AEMT
 - 3.1. Same as EMT
4. Paramedic
 - 4.1. None

Curriculum Objectives

1. EMR
 - 1.1. None
2. EMT
 - 2.1. Describe the 6 rights of drug administration
 - 2.2. Discuss proper needle handling procedures
 - 2.3. Discuss the proper documentation of subcutaneous medication administration
 - 2.4. Describe the proper equipment, technique, complications and general principles for the preparation and administration for subcutaneous injections
3. AEMT
 - 3.1. Same as EMT
4. Paramedic
 - 4.1. None